11003 • ENGLISH PUBLICATION • POLISH SUMMARY

TOPSHOTS

Mi-24D/W

Krzysztof Barcz
Dariusz Warszawski

HIGH QUALITY DECALS FREE • 44 PAGES • 145 PHOTOS • 14 DRAWINGS

KAGERO

11003

Mi-24D/W
Krzysztof Barcz,
Dariusz Warszawski

Wydanie pierwsze/First Edition
Lublin 2005

Fotografie:
Krzysztof Barcz, Mariusz Kalinowski,
Andrzej Wrona

Fotografie na okładce:
Mariusz Kalinowski

Redaktor prowadzący:
Albert Osiński

Tłumaczenie: Tomasz Szlagor

Korekta: Albert Osiński

Design: KAGERO STUDIO
Tomasz Gąska
RAT
OW KAGERO
ul. Mełgiewska 7-9
20-952 Lublin
tel./fax (+48-81) 749 11 81
tel./fax (+48-81) 759 65 03

e-mail: kagero@kagero.pl,
marketing@kagero.pl
www.kagero.pl

ISBN 83-89088-64-9

© Wszystkie prawa zastrzeżone. Wykorzystywanie fragmentów tej książki do przedruków w gazetach i czasopismach, w audycjach radiowych i programach telewizyjnych bez pisemnej zgody Wydawcy jest zabronione. Nazwa serii zastrzeżona w UP RP

Kalkomania dołączona do niniejszej publikacji stanowi integralną część książki i nie może być sprzedawana oddzielnie

Cena detaliczna: 22,00 PLN

KAGERO

Mi-24 D/W

By the end of the sixties the USSR came up with a new concept of an assault helicopter, to be based on Mi-8T construction. The new design was to perform dual task of attacking as well as delivering troops to the battlefield. This led to construction of a prototype designated "Mi-24". The first Mi-24As rolled off assembly lines in 1972. The designers from OKB MIL put special emphasis on ruggedness of the construction and its maximum adaptability to the demands of the modern battlefield. The cockpit received protective armour, while the introduction of wings enabled the machine to continue flight even with damaged tail rotor.

Combat experience gathered in conflicts which involved Russian troops, notably the war in Afghanistan, led to further development of the construction. The following subvariant, Mi-24D, featured a twin cockpit with the gunner at the front and the pilot in the staggered-up back cockpit.

Such arrangement of cockpits ensured excellent co-ordination between the two crew members and much improved visibility. Mi-24D was up-gunned with 12.7 mm Yakoushev/Borzov YakB four-barrel machine gun in USPU-24 powered chin turret.

Mi-24s operating over Afghanistan soon gained well-deserved fame of the "Mujahideen Killer". First deliveries of Mi-24s were issued to other countries from the military alliance known as the Warsaw Pact. Mi-24 gunships were also widely exported outside the Warsaw Pact in special export variants, designated "Mi-25".

The progressive upgrades of the machine, which duly resulted from amassed combat experience, included added defence systems against short-range missiles: ASO chaff/flare dispensers, EVU IR-suppressors mounted over the exhaust tubes and the 'Ispanka' IR-jammer. The upgraded weaponry included the new generation of 9M114 type missiles. Those improvements led to introduction of the new sub-variant: Mi-24W.

First Mi-24Ds were delivered to Poland -then a member of the Warsaw Pact- in 1978. At that time the 49th Assault Helicopter Group was activated in Pruszcz Gdanski. By the end of 1985 the unit received from the USSR a total of 16 machines of the "D" variant. From 1986 the Polish Air Force demands were met by supplying the newer Mi-24Ws. Sixteen gunships of the type were assigned to the 56th 'Kujawski' Assault Helicopter Group stationed in Inowroclaw. In 1996 Poland received from Germany 24 Mi-24Ds, which formerly belonged to the army of DDR (East Germany). Those machines lacked the 'Ispanka' system, originally mounted on the spine of Mi-24.

The helicopters were thoroughly overhauled in the Military Repair Facility in the city of Lodz (two machines were dismantled to serve as a source of spare parts) and eventually assigned to the 2nd Squadron of the 49th AHG in Pruszcz Gdanski.

On 5th January 2005 four Mi-24Ds from Pruszcz Gdanski were shipped to Iraq to serve as a most welcome reinforcement of the Polish ground troops, which operate as a part of the International Stabilizing Forces.

Krzysztof Barcz, Dariusz Warszawski

The authors would like to thank:
Andrzej Wrona, Krzysztof Nicpoń, Mariusz Kalinowski and Adam Gołąbek for their help while preparing this monograph

Fot. Mariusz Kalinowski

Fot. Mariusz Kaliszewski

Mi-24W

Mi-24D/W

The last Mi-24W delivered to Poland • Ostatni dostarczony do polski Mi-24W

Czech Mi-24W • Czeski Mi-24W

Mi-24D

Fot. Krzysztof Sikora

Fot. Krzysztof Dunca

Mi-24D of the 1st Squadron, the 49th Assault Helicopter Group, Pruszcz Gdanski • Mi-24D I eskadry 49 Pułku Śmigłowców Bojowych w Pruszczu Gdańskim

Fot. Krzysztof Barra

Fot. Krzysztof Barra

Fot. Krzysztof Barra

Front part featuring the onboard gunner – guided weapon operator's cockpit • Przód kadłuba z kabiną strzelca pokładowego – operatora uzbrojenia

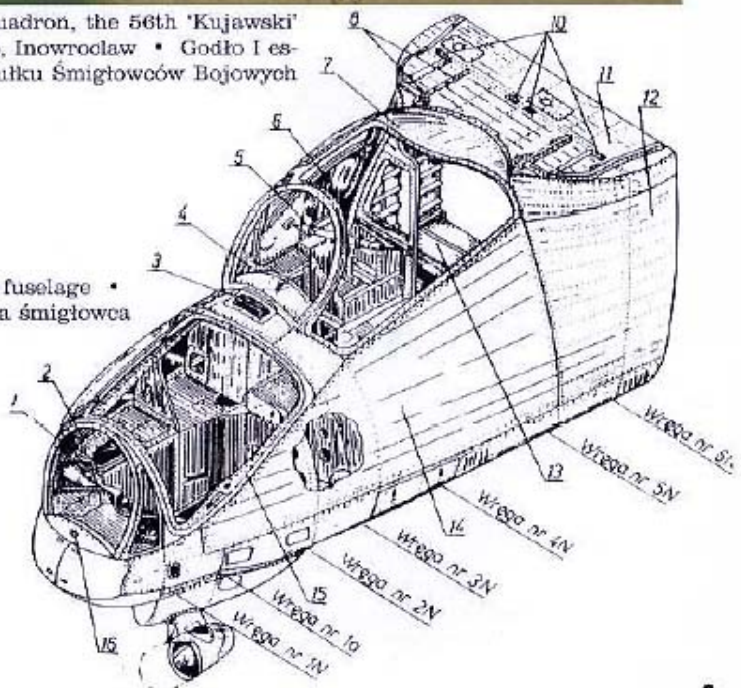
Fot. Mariusz Kalinowski

Fot. Krzysztof Barcz

Fot. Krzysztof Barcz

The badge of the 1st Squadron, the 56th 'Kujawski' Assault Helicopter Group, Inowrocław • Godło I eskadry 56 Kujawskiego Pułku Śmigłowców Bojowych w Inowrocławiu

Fot. Mariusz Kołtanowski



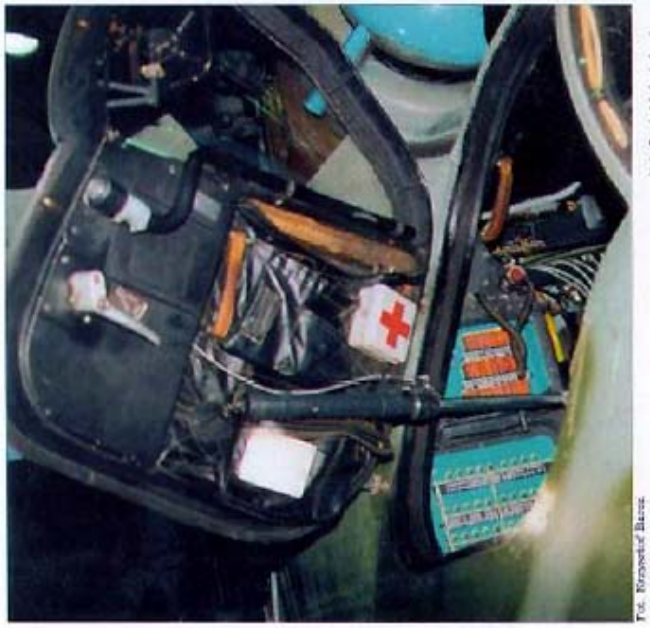
The front part of the fuselage • Przednia część kadłuba śmigłowca

Pilot's canopy • Kabina pilota

Fot. Mariusz Kalinowski

Fot. Krzysztof Barcz

Fot. Andrzej Wróka



Fot. Krzysztof Barcz

Pilot's cockpit door • Drzwi wejściowe do kabiny pilota

Fot. Andrzej Wróka

Fot. Andrzej Wróka

Interior of Mi-24W pilot's canopy • Wnętrze kabiny pilota Mi-24W

Fot. Mariusz Kalinowski

Left side of pilot's cockpit Mi-24D • Lewa strona kabiny pilota

Fot. Mariusz Kalinowski

Gunsight Mi-24D • Celownik

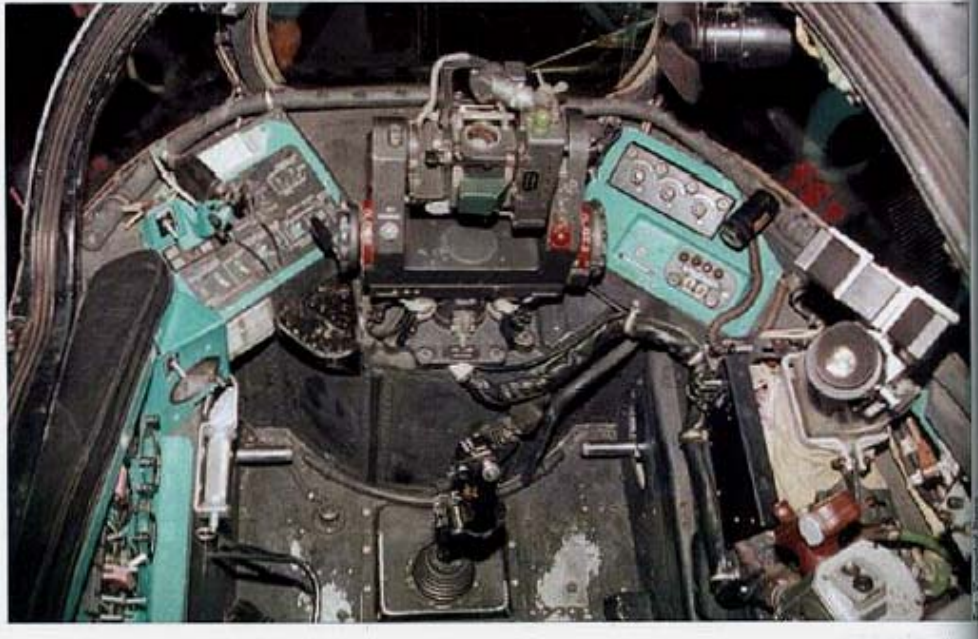
Fot. Krzysztof Banoz

ASP-17V gunsight (Mi-24W version) • Głowica celownika ASP-17W z wersji Mi-24W

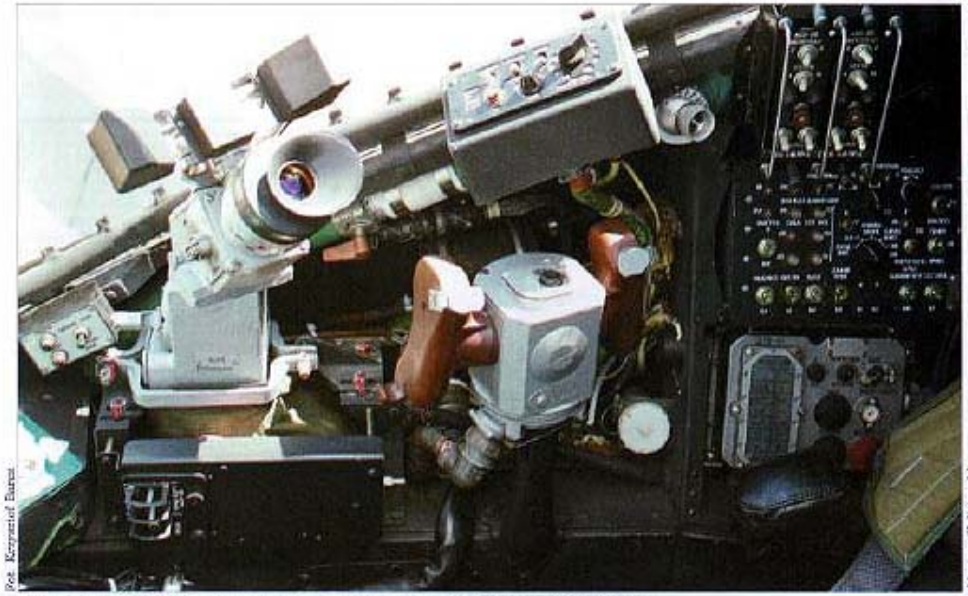
Fot. Mariusz Kalinowski

Pilot's instrument panel • Tablica przyrządów pilota

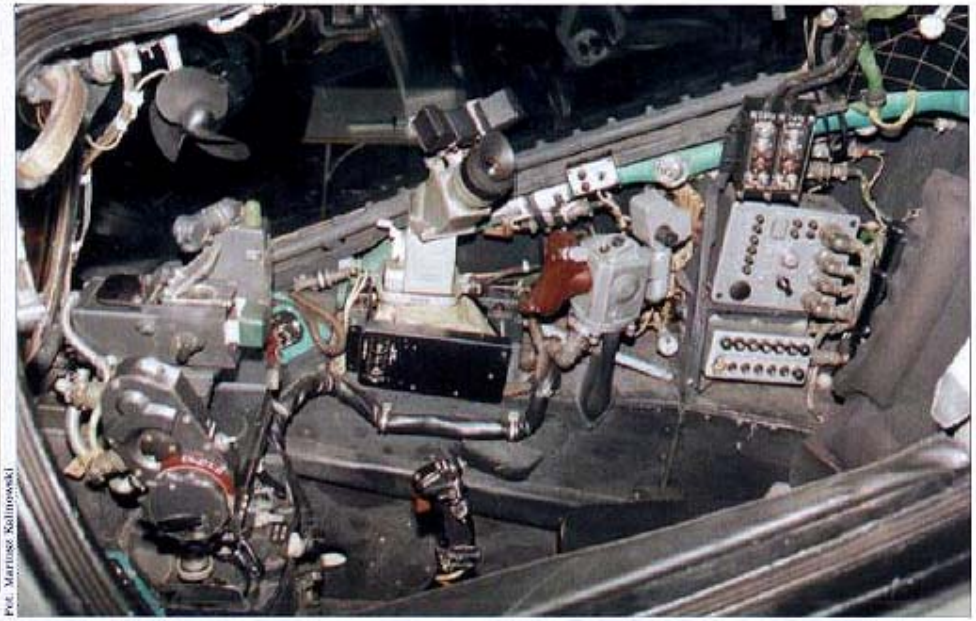
Fot. Mariusz Kilikowski



Weapon operator's cockpit • Kabina operatora uzbrojenia



Fot. Krzysztof Barcz



Fot. Mariusz Kalinowski

Weapon operator's cockpit • Kabina operatora uzbrojenia

Fot. Mariusz Kalinowski

Fot. Krzysztof Barcz

Fot. Mariusz Kalinowski

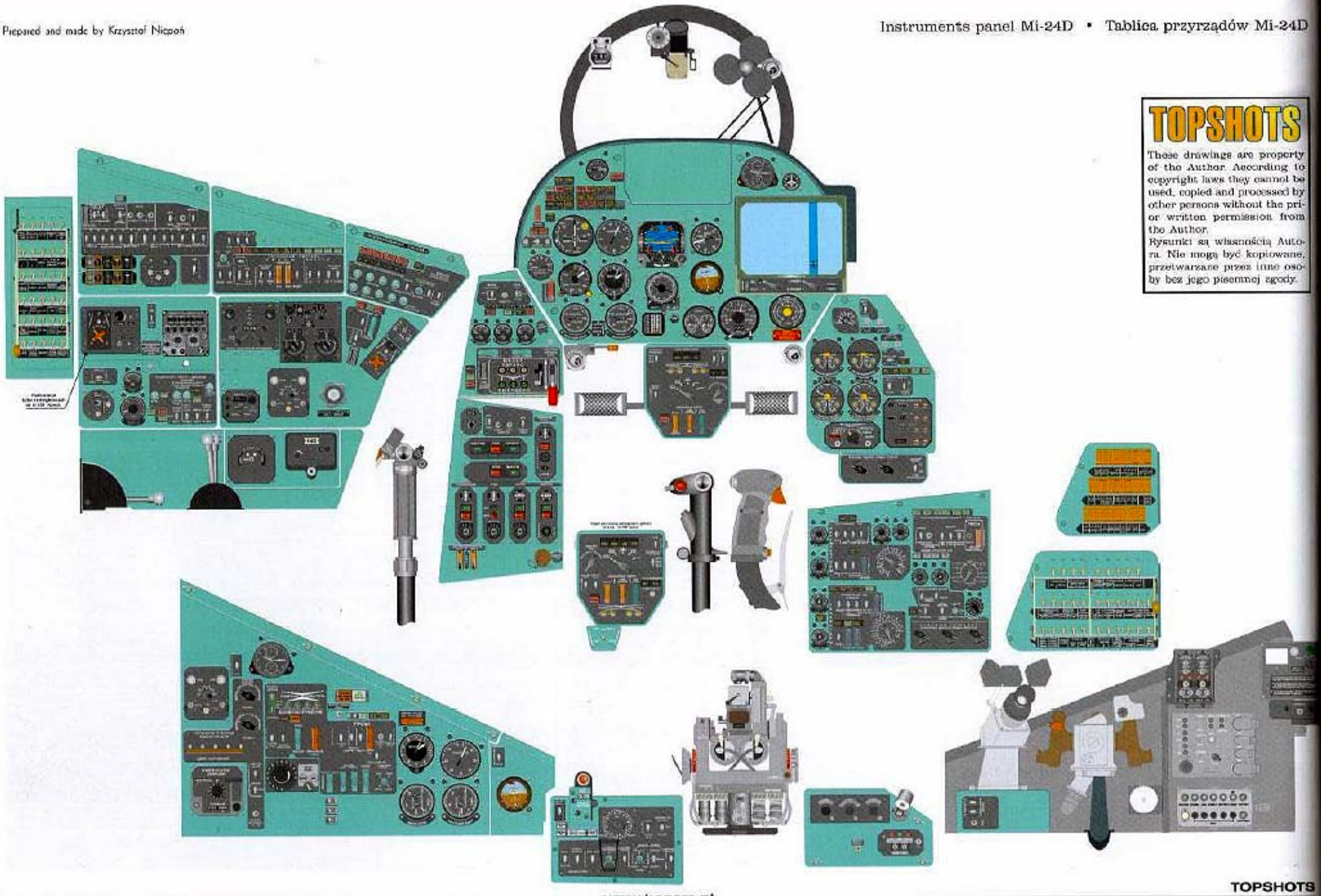
Port side of weapon operator's cockpit • Lewa strona kabiny operatora uzbrojenia

KPS-53-AW fire-control station • stacja kierowania ogniem KPS 53 AW

◄ Aft starboard side of weapon operator's cockpit • Tylna część prawej strony Kabiny operatora uzbrojenia

Prepared and made by Krzysztof Nicpoń

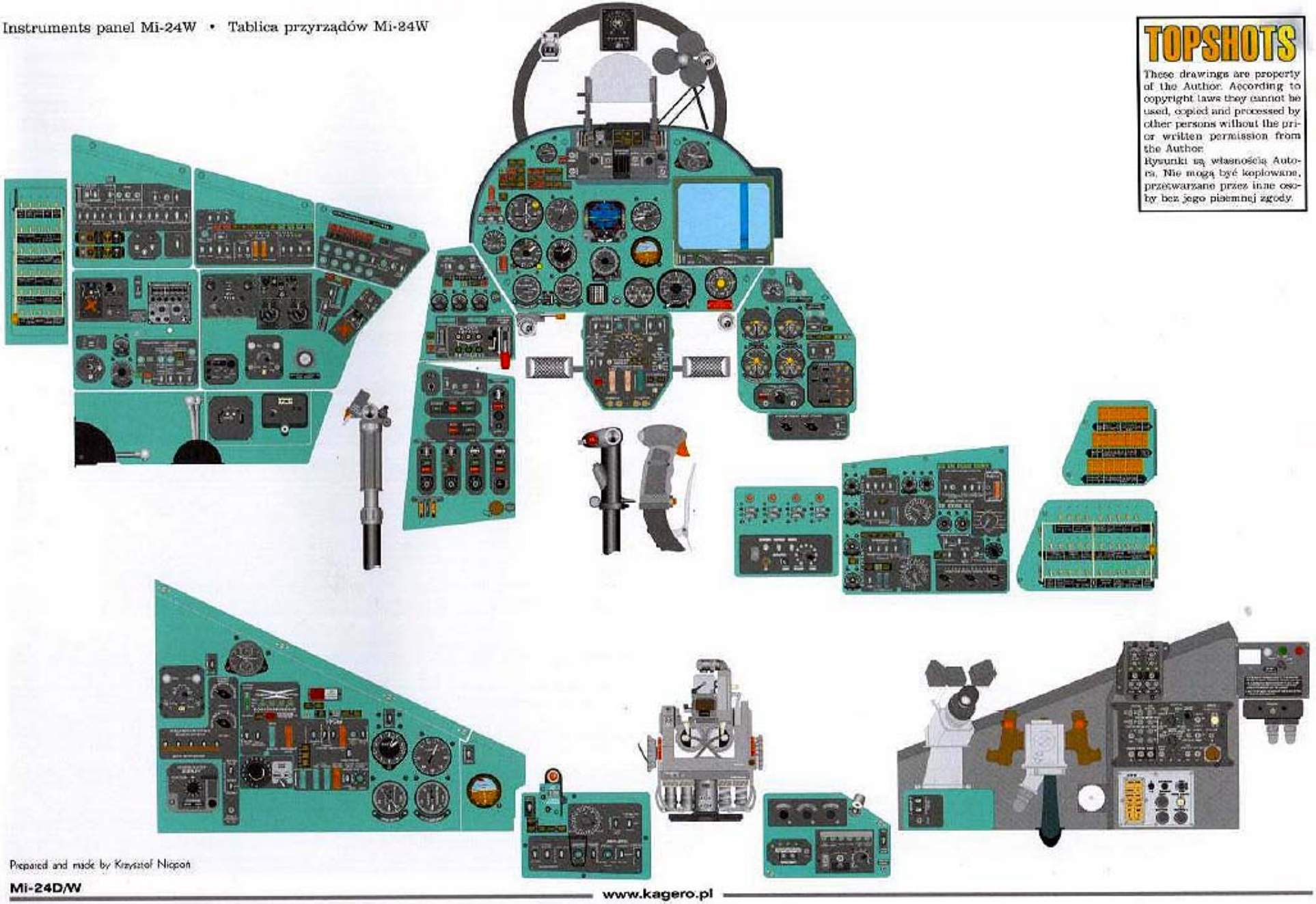
Instruments panel Mi-24D • Tablica przyrządów Mi-24D



TOPSHOTS

These drawings are property of the Author. According to copyright laws they cannot be used, copied and processed by other persons without the prior written permission from the Author.
Rysunki są własnością Autora. Nie mogą być kopiowane, przetwarzane przez inne osoby bez jego pisemnej zgody.

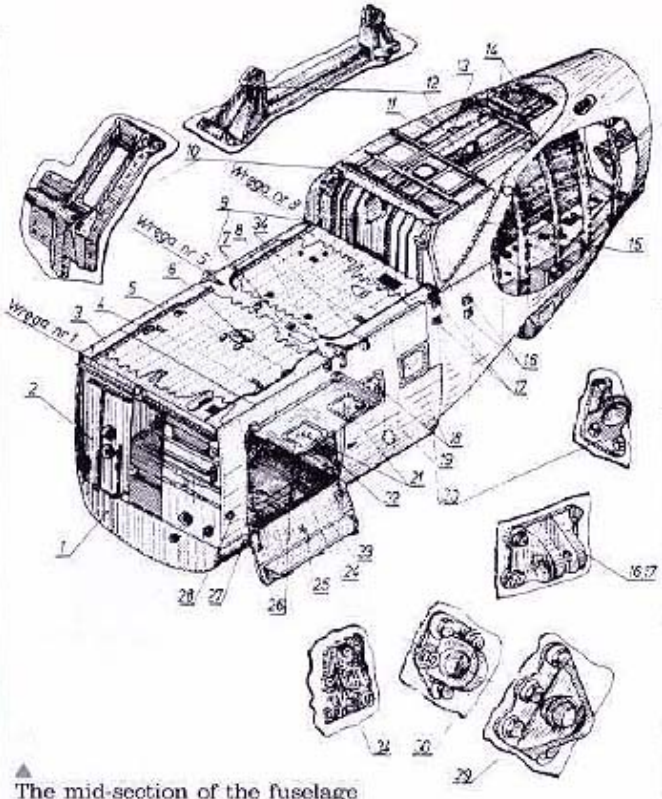
Instruments panel Mi-24W • Tablica przyrządów Mi-24W



TOPSHOTS

These drawings are property of the Author. According to copyright laws they cannot be used, copied and processed by other persons without the prior written permission from the Author.
Rysunki są własnością Autora. Nie mogą być kopiowane, przetwarzane przez inne osoby bez jego pisemnej zgody.

Prepared and made by Krzysztof Nicpon



The mid-section of the fuselage
• Środkowa część kadłuba

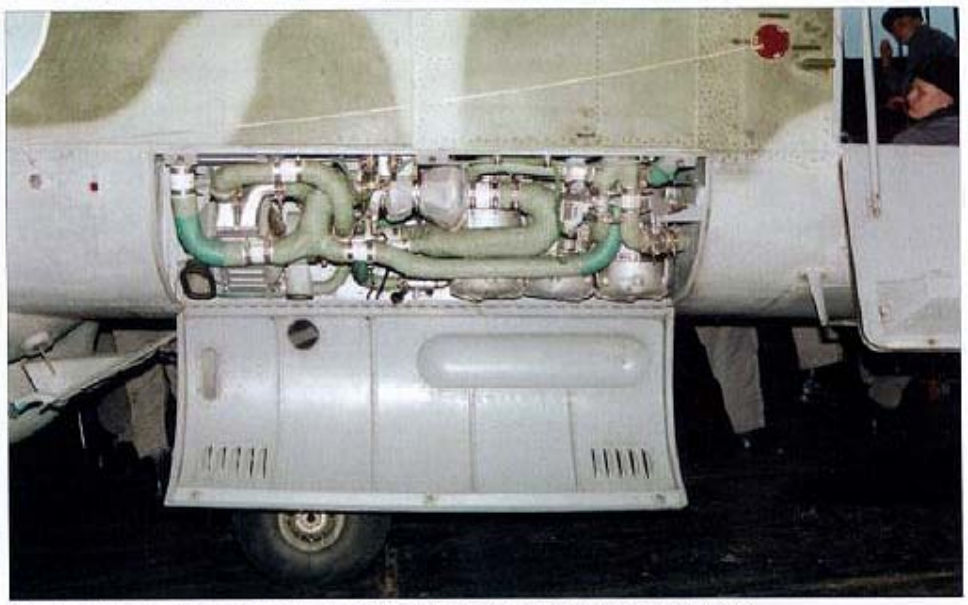
Technical data on the Mi-24

Dimensions	
Span [m]	6,57
Length [m]	21,35
Hight [m]	3,97
Main rotor diameter [m]	17,30
Średnica śmigła ogonowego [m]	3,908
Weights	
Empty [kg]	8200
Max. loaded [kg]	11500
Performance	
Max. speed [km/h]	335
Cruising speed [km/h]	340-270
Maks. prędkość pionowa [m/s]	14
Pułap maks. praktyczny (dynamiczny) [m]	4500
Pułap statyczny [m]	1750
Range [km]	450
Engine	
Type of engine	TW3-117W
Power [hp]	2100

Internal avionics and radio blocks behind the pilot's seat. Flight engineer's compartment • Wewnętrzne bloki awioniki i radio za fotelem pilota.

Cargo and troop compartment
• Kabina ładunkowo-desantowa

◀ ▲ Cargo and troop compartment • Kabina ładunkowo-desantowa



Air-conditioning hatch • Luk klimatyzacji i nadciśnienia w kabinie

Fot. Krzysztof Barcz

▲ Air-conditioning hatch • Luk klimatyzacji i nadciśnienia w kabinie

◀ Beriozka system antennas and reflector used for landing and taxiing in Mi-24W • Antena systemu L-006 Bierjozka i reflektor do kołowania i lądowania Mi-24W

Auxiliary air pressure probe • Awaryjny odbiornik ciśnień powietrza

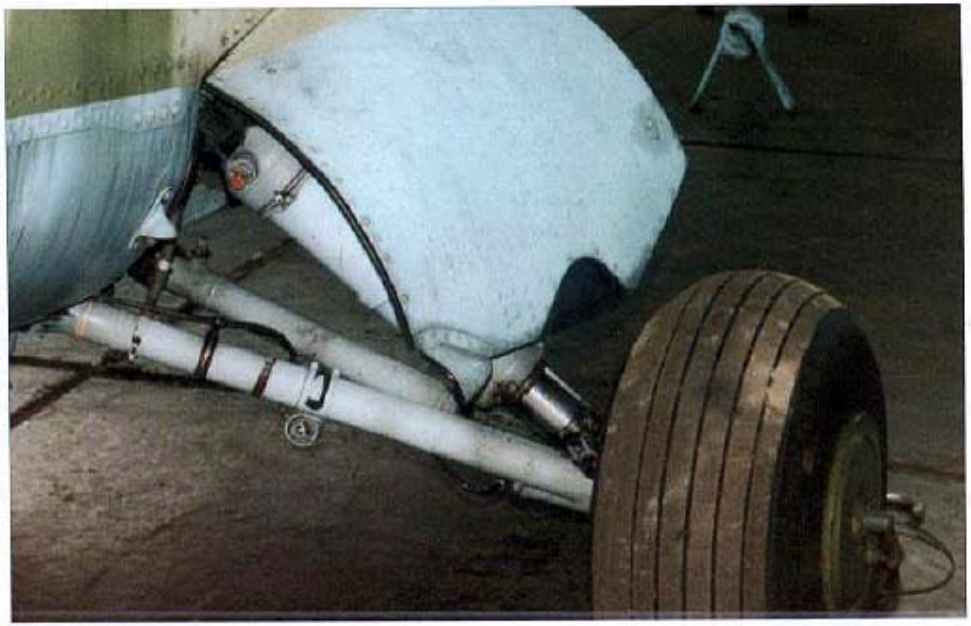
Optical guided missile fire-control station • Optyczny układ naprowadzania kierowanych pocisków rakietowych

Guided missile fire-control station cover (Mi-24D-9M17P) • Osłona stacji naprowadzania kierowanych pocisków rakietowych (Mi-24D-9M17P)

Fot. Krzysztof Buca

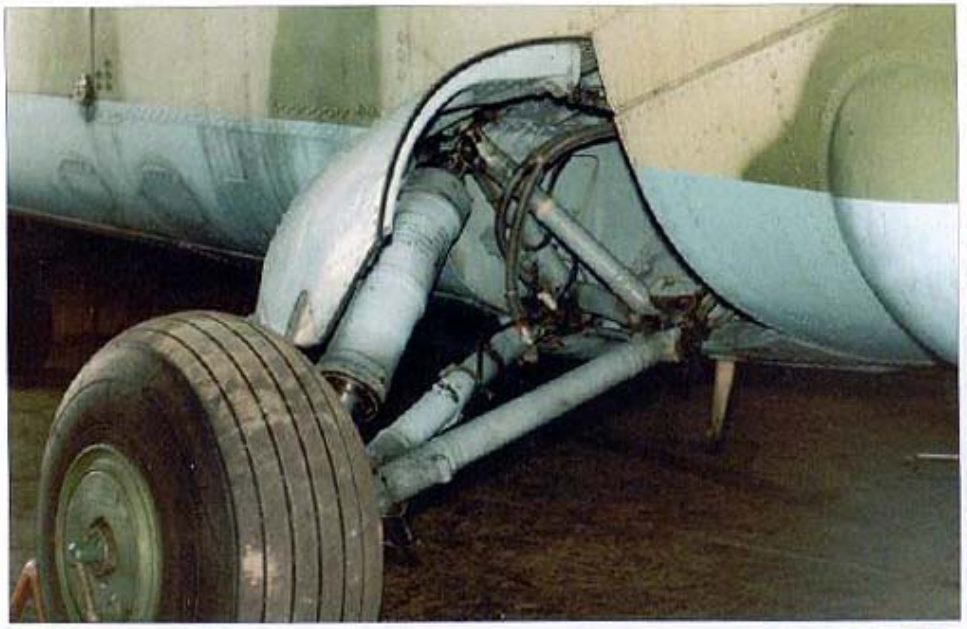
Guided missile fire-control station cover (Mi-24W-9M114) • Osłona stacji naprowadzania kierowanych pocisków rakietowych (Mi-24W-9M114)

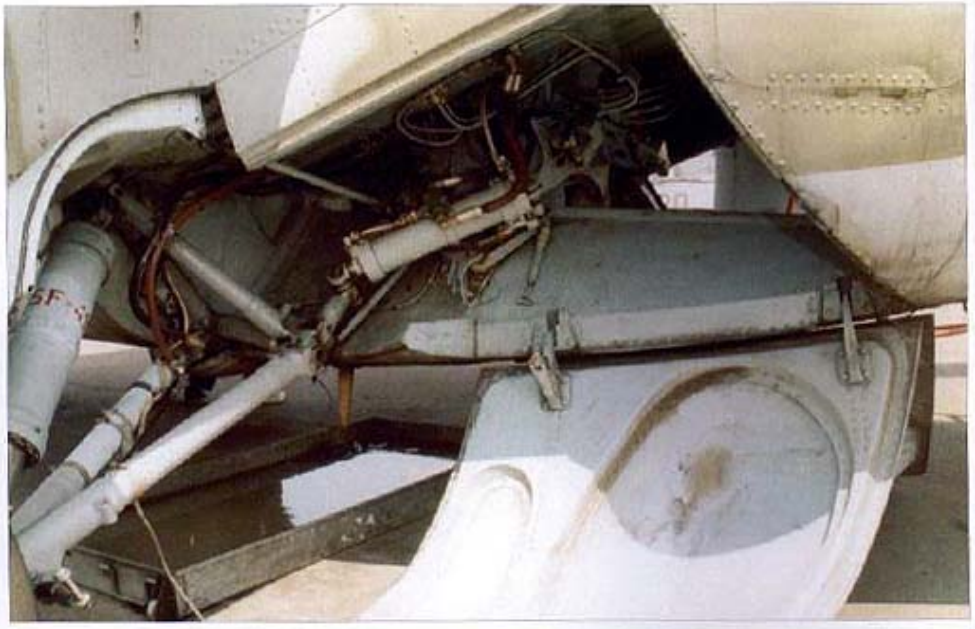
Construction details of front landing gear • Szczegóły konstrukcji podwozia przedniego

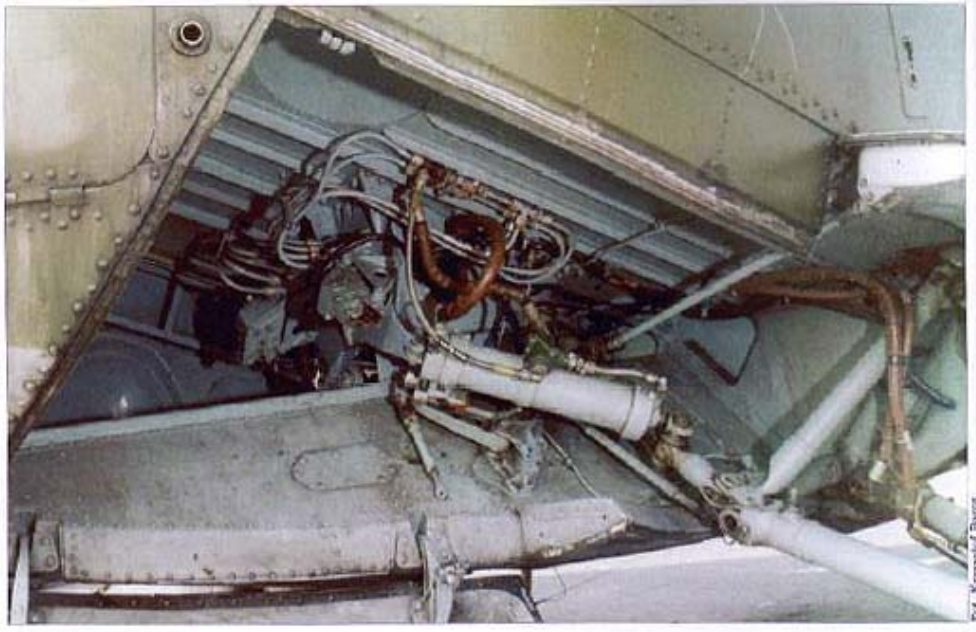


Construction details of main landing gear • Szczegóły konstrukcji podwozia głównego

Fot. Krzysztof Burcz

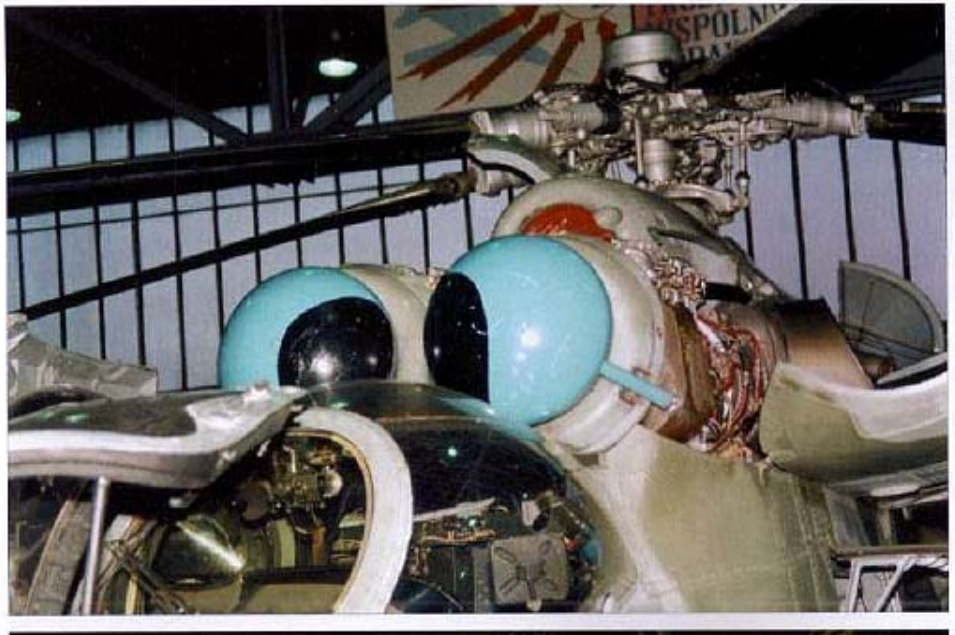




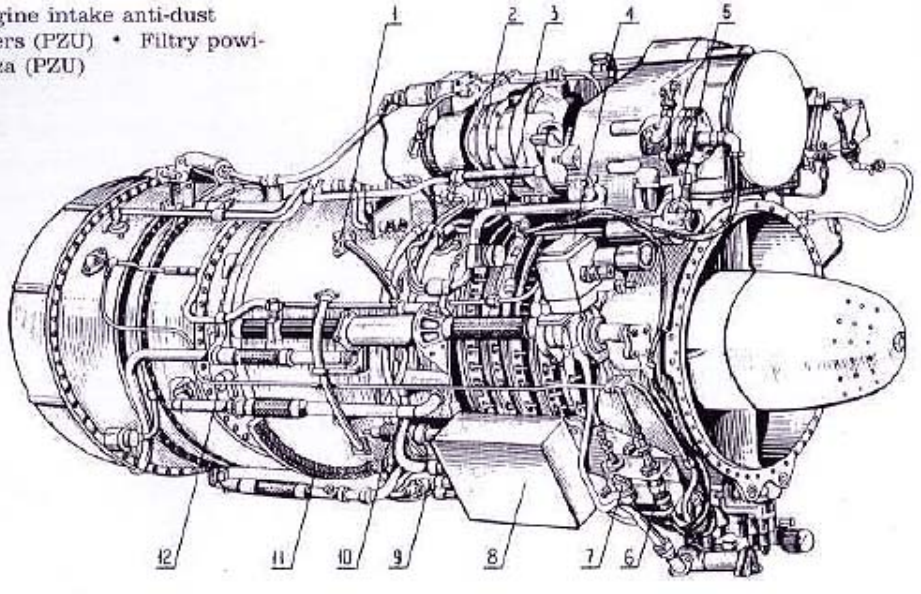


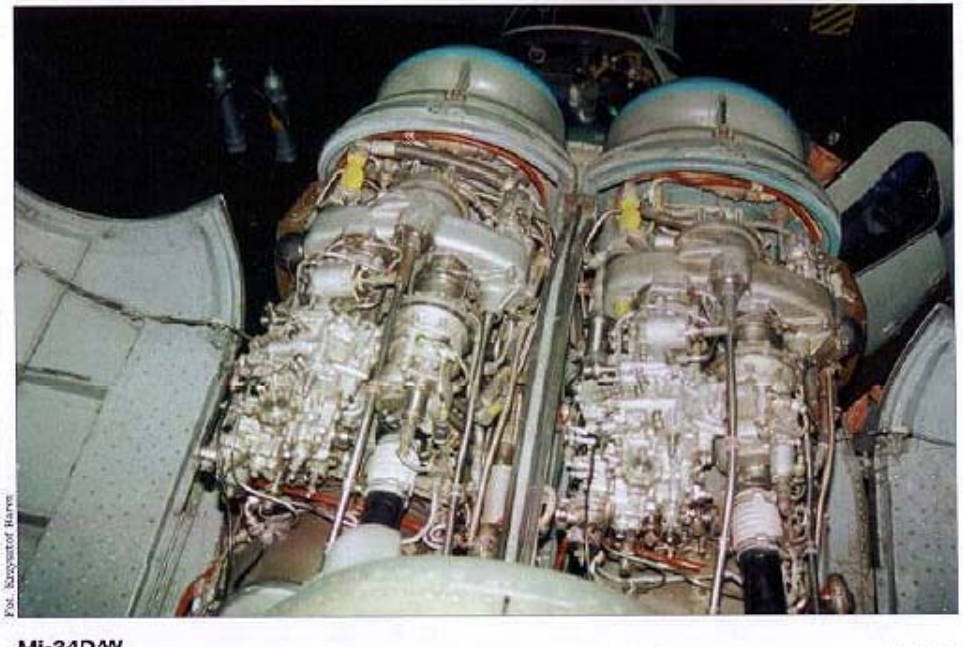
Fot. Krzysztof Bacza

Construction details of main landing gear • Szczegóły konstrukcji podwozia głównego



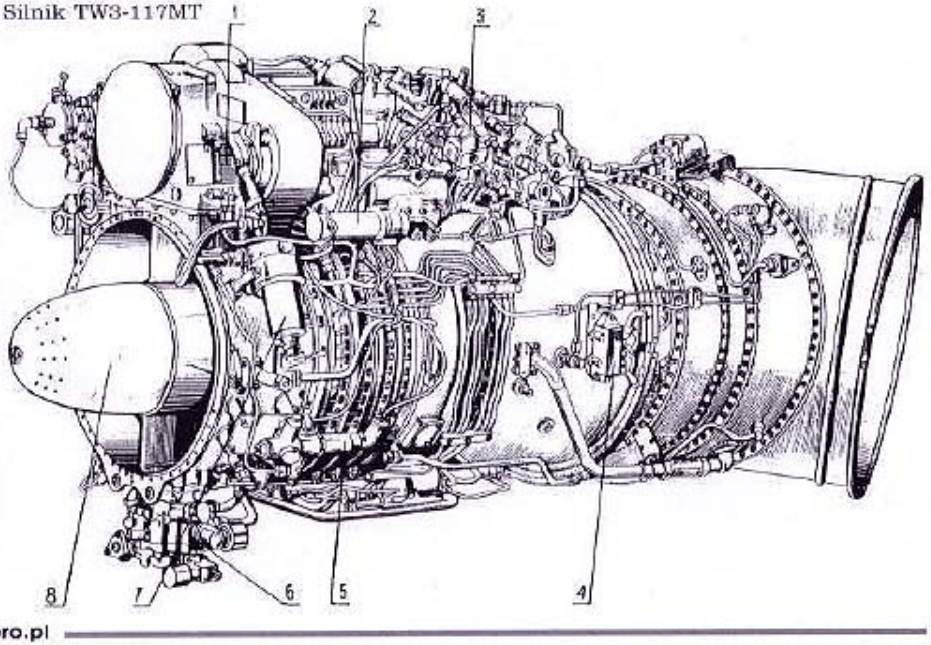
Engine intake anti-dust filters (PZU) • Filtry powietrza (PZU)

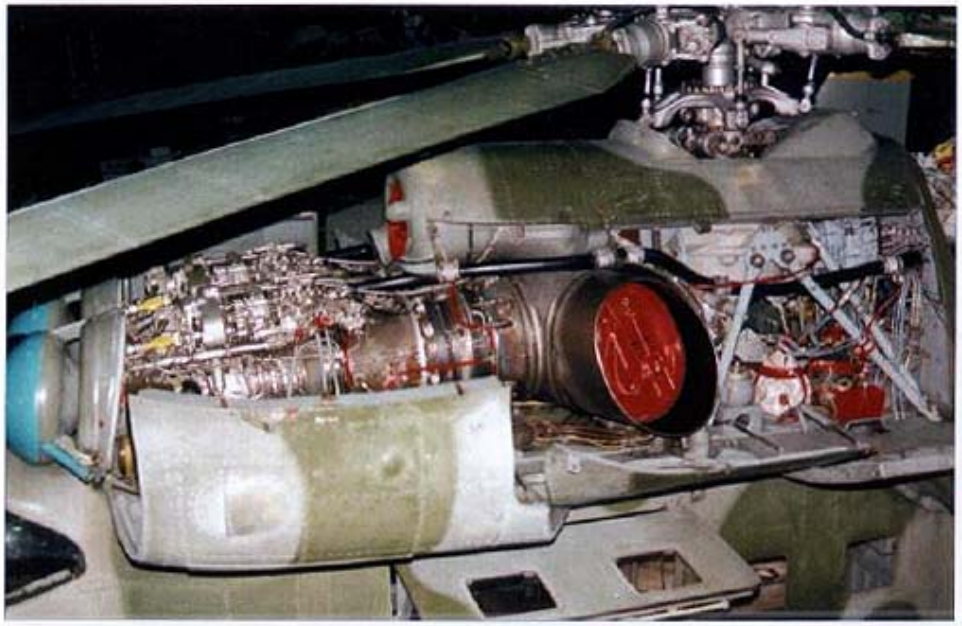


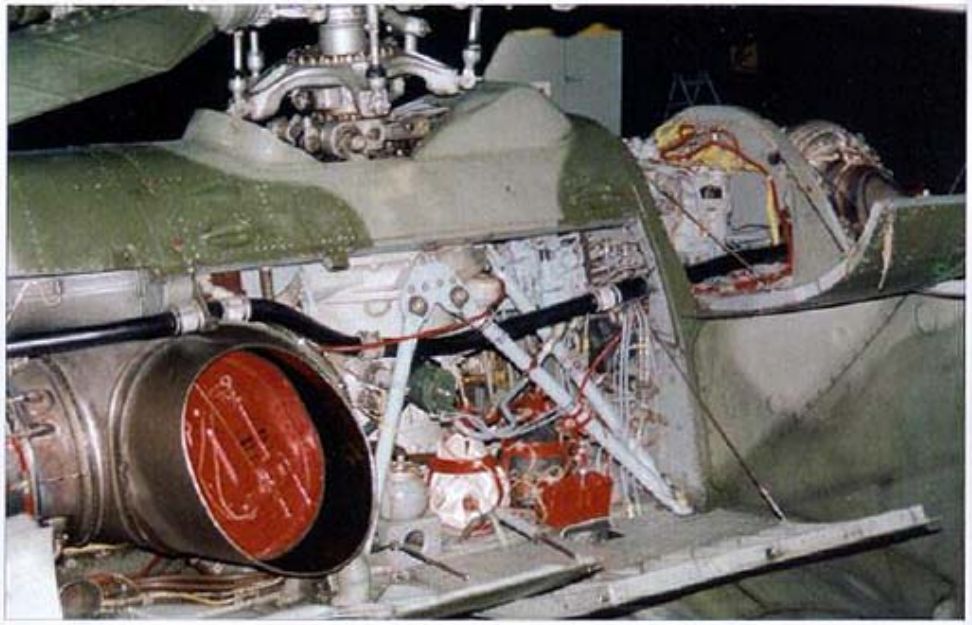


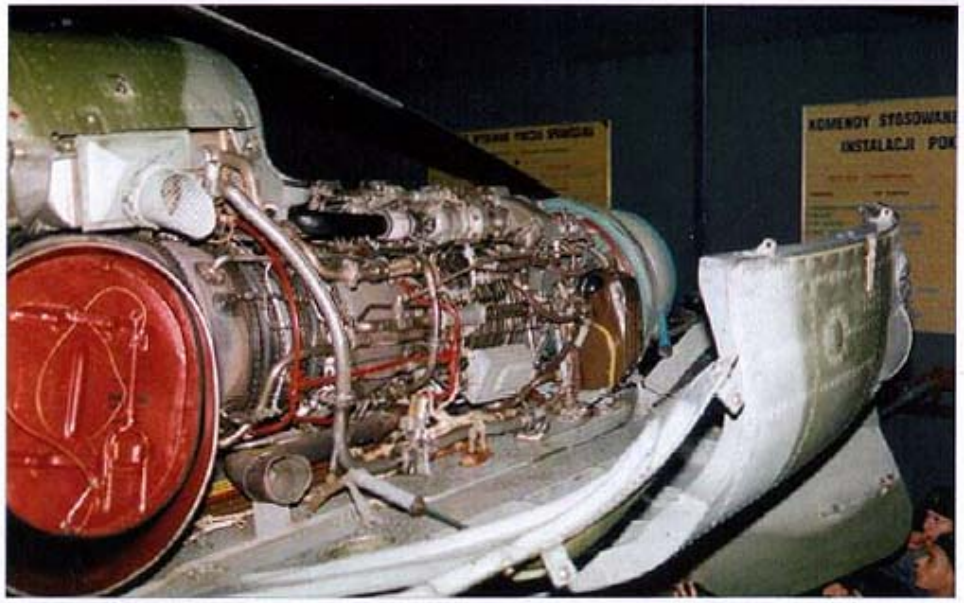
Fot. Krzysztof Hawa

TW3-117MT engine • Silnik TW3-117MT

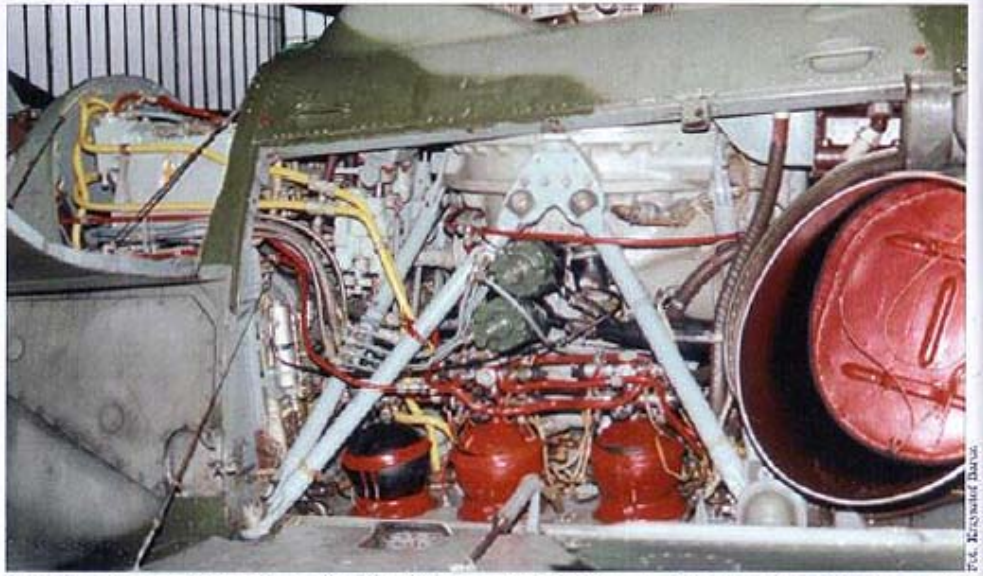






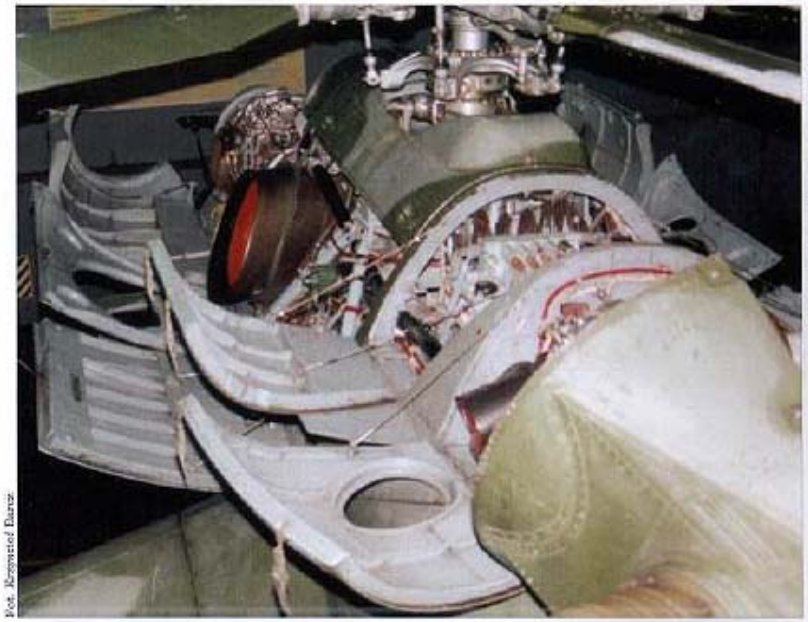


TW3-117MT engine • Silnik TW3-117MT



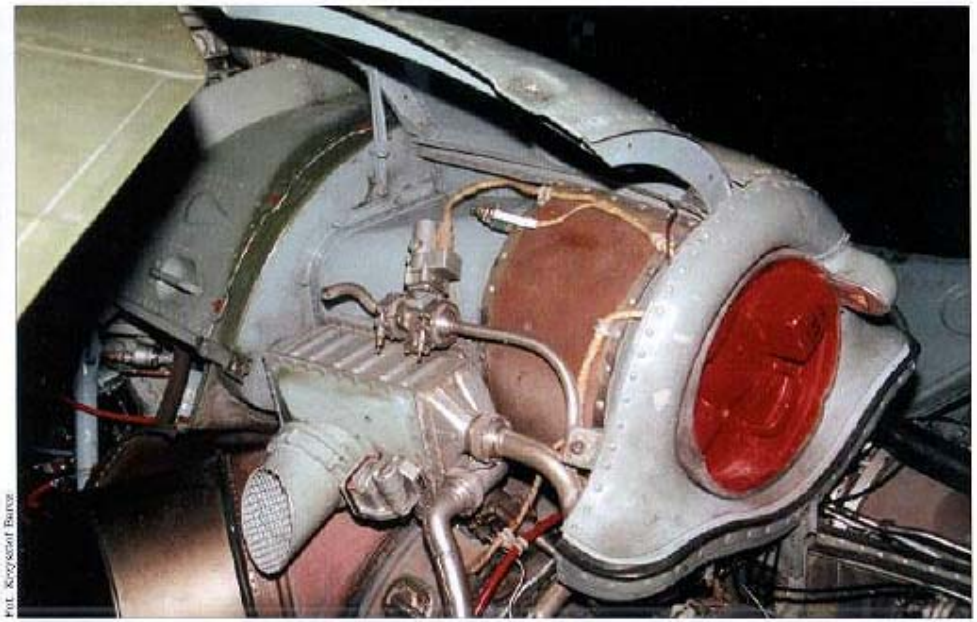
VR-24 main gearbox and engine fire-fighting installation • Przekładnia główna WR-24 wraz z instalacją ppoż. silnika

Fot. Krzysztof Dario



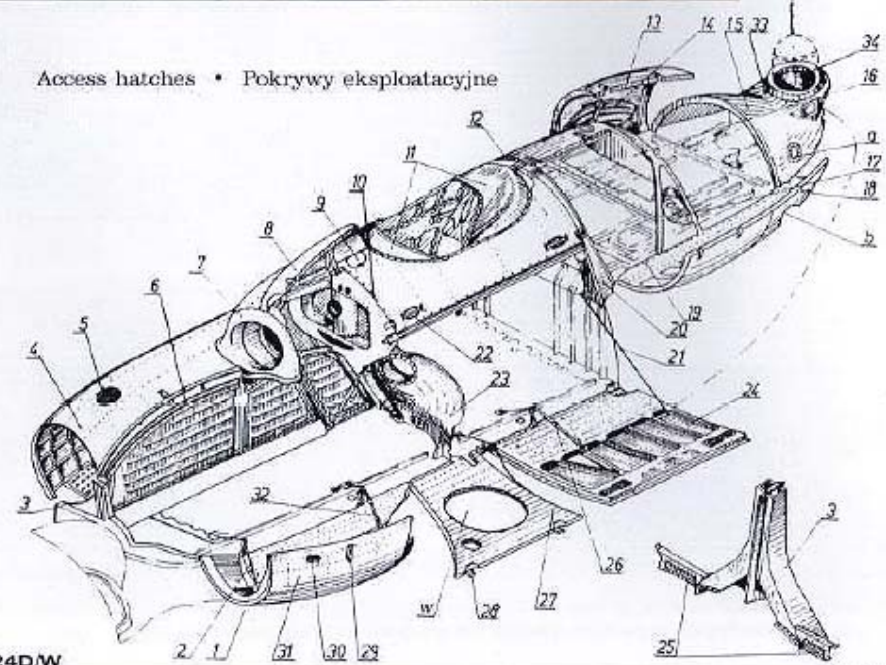
Fot. Krzysztof Burza

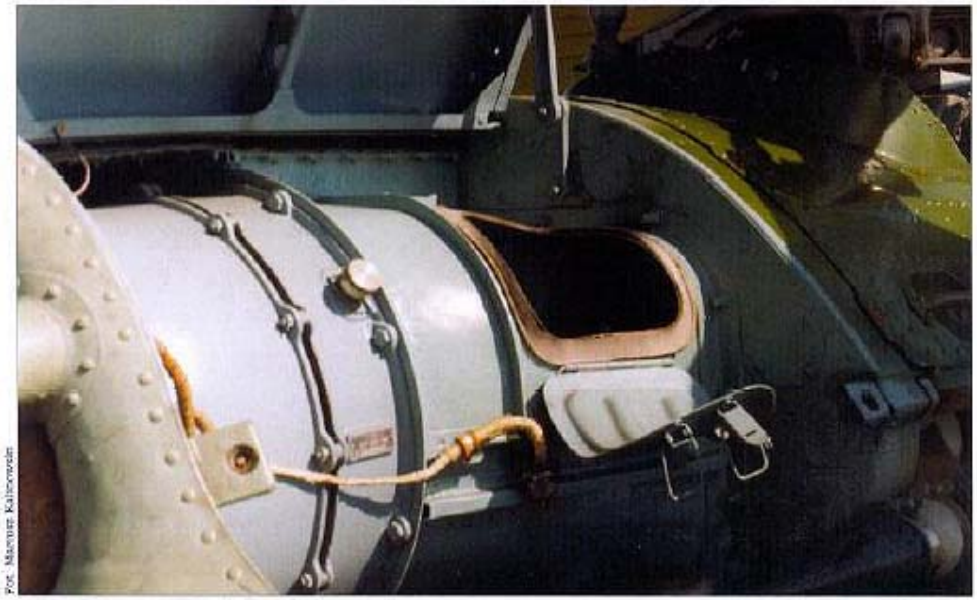
Open access hatches of main gearbox and engine compartments • Otwarte pokrywy eksploatacyjne przedziału silnika i przekładni głównej



Fot. Krzysztof Burza

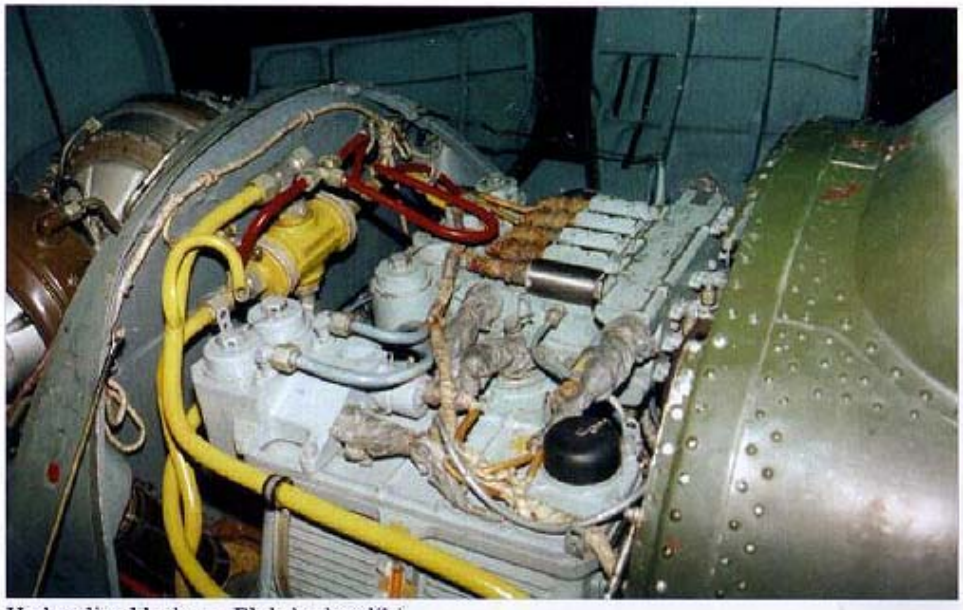
Access hatches • Pokrywy eksploatacyjne



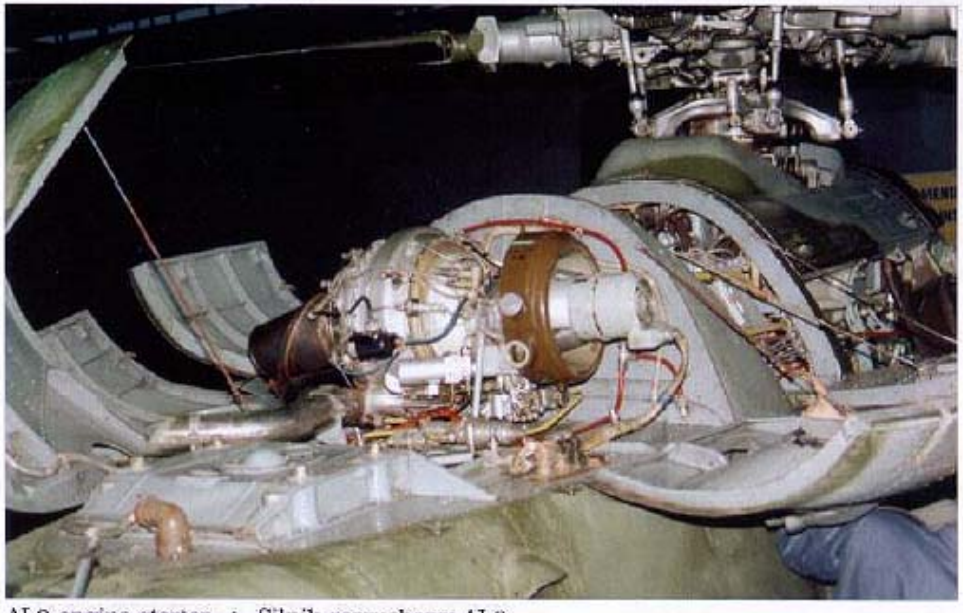


Fot. Maciej Kalkowski

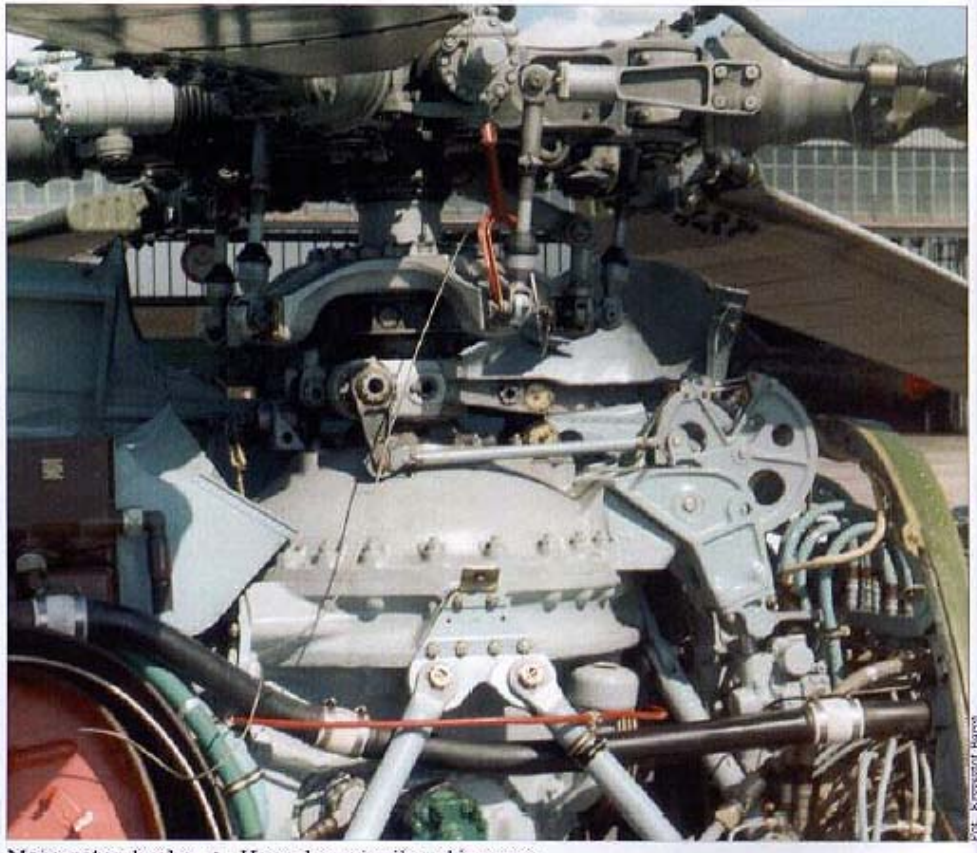
Oil cooler • Chłodnica oleju



Hydraulics block • Blok hydrauliki

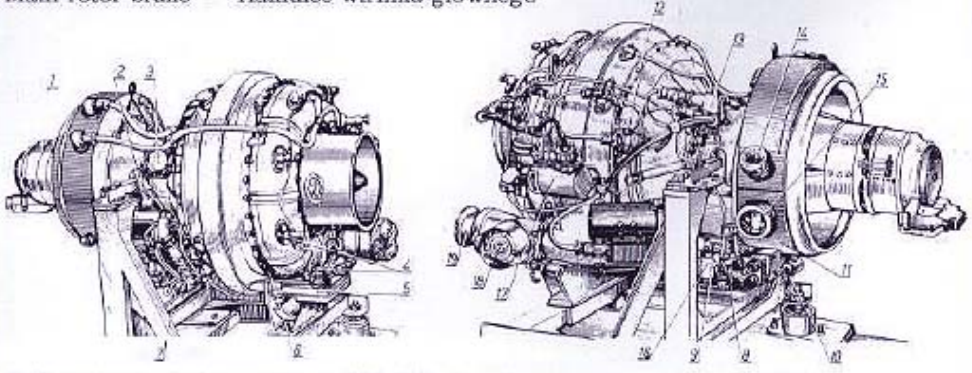


AI-9 engine starter • Silnik rozruchowy AI-9

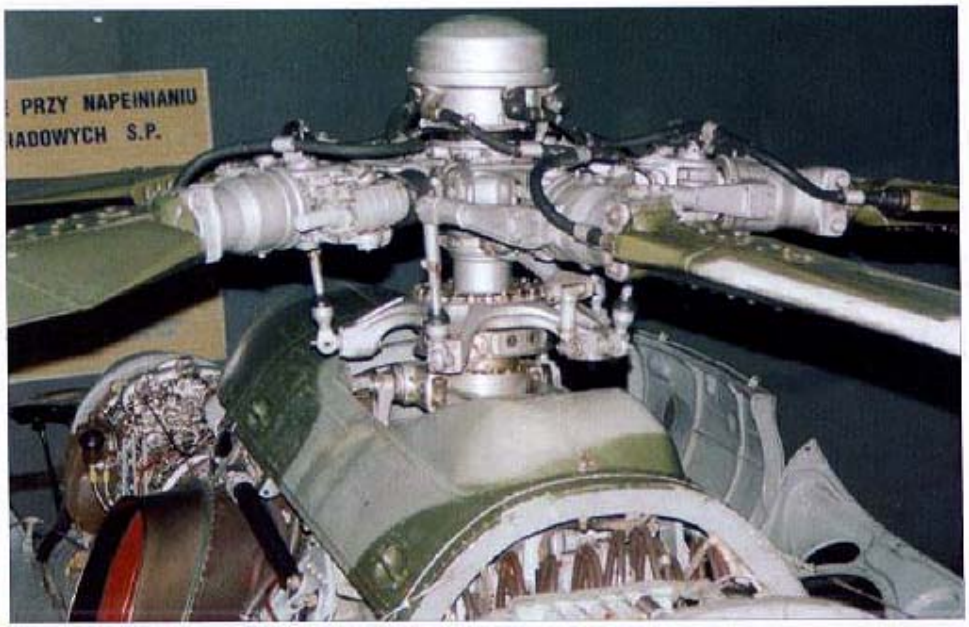


Fot. Krzysztof Bianki

Main rotor brake • Hamulec wirnika głównego

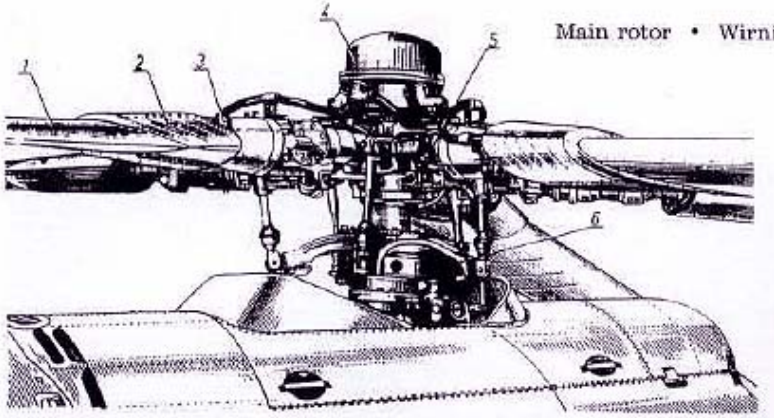


AI-9 starter turbojet engine • Silnik turboodrzutowy (rozruchowy) AI-9



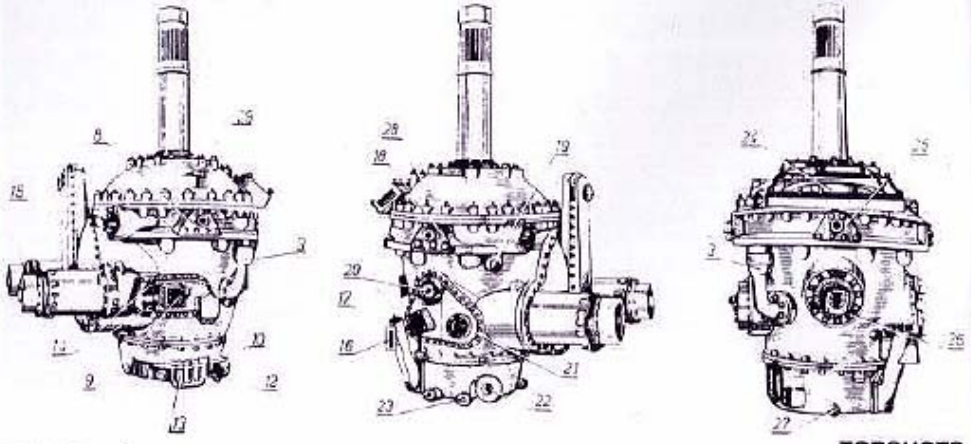
Fot. Krzysztof Burek

Construction details of main rotor • Szczegóły konstrukcji wirnika głównego



Main rotor • Wirnik nośny

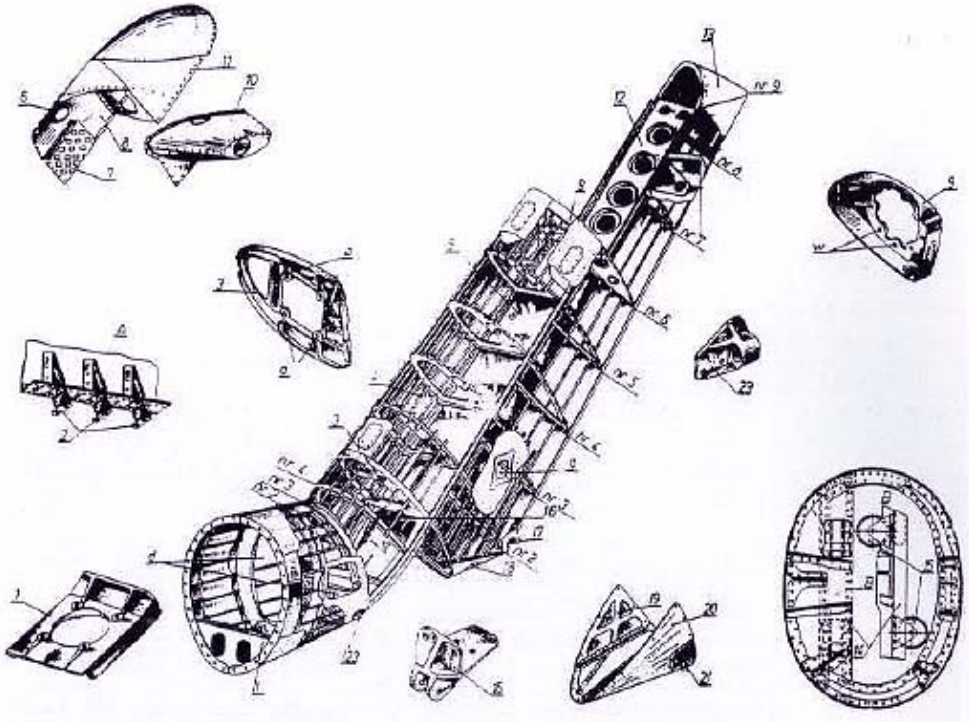
Fot. Andrzej Wroza



Main transmission WR-24 • Przekładnia główna WR-24

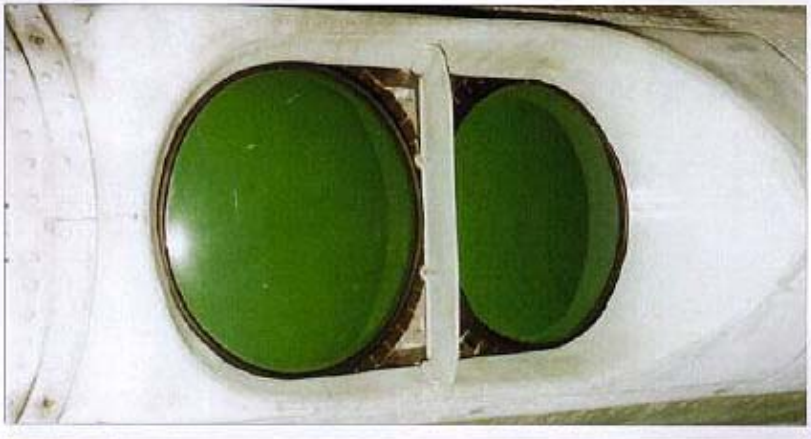
Tail boom and tailplane • Belka ogonowa wraz ze statecznikiem poziomym

Fot. Krzysztof Barcz



Tailfin • Statecznik pionowy

Dismantled and faired-over 'Ispanka' unit, as present on all Mi-24Ds delivered from the former DDR (East Germany) • Zdemontowane i zaślepiony pokrywą urządzenie Ispanka

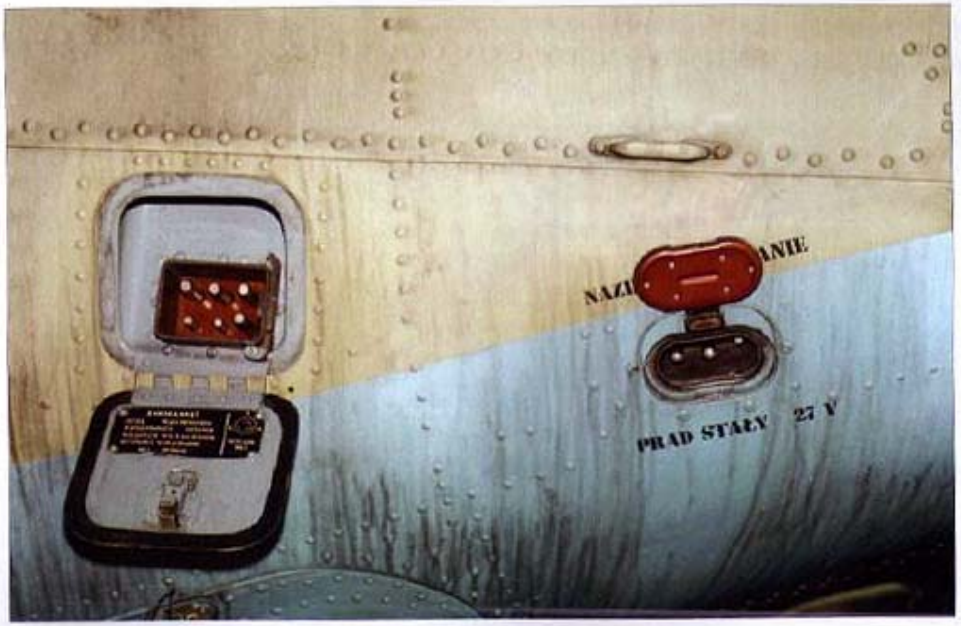


DISS-15D station antenna under tail boom • Spodnia część belki ogonowej – antena stacji DISS-15D

L-166V 'Ispanka' IR jammer cover • Osłona urządzenia L-166W Ispanka

Fot. Krzysztof Bartox

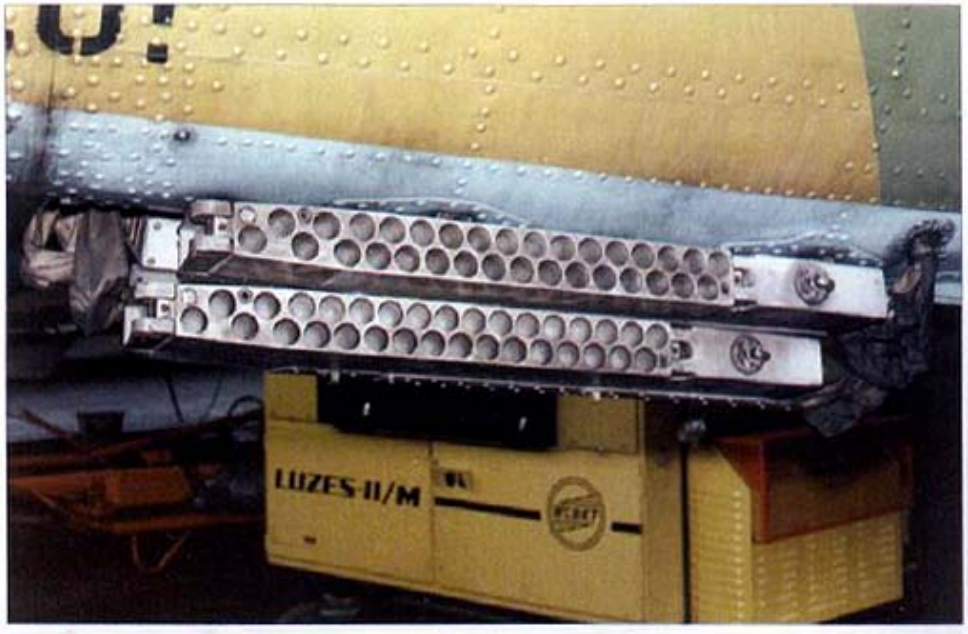
R-852 radio antenna, formation flying light and blinking anti-collision light • Antena radiostacji R-852, światło do lotów w szyku oraz antykolizyjne światło pulsujące

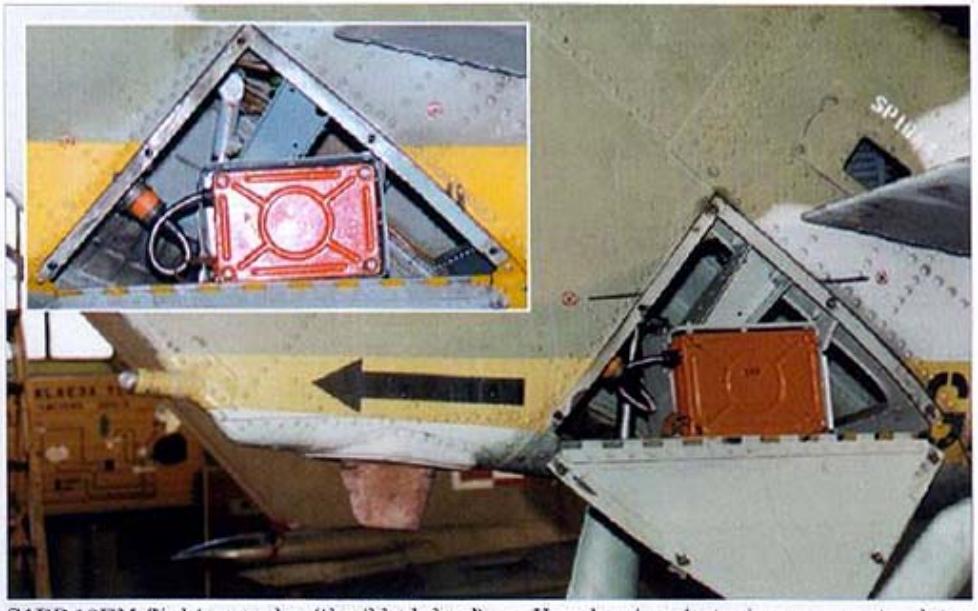


Onboard starboard battery hatch with and without battery • Luk akumulatora

Fot. Krzysztof Sierce

Port side access hatches – onboard battery, hydraulic installation, air installation filling point and AC/DC sockets; below open radio compartment access hatch • Luki obsługowe z lewej strony kadłuba

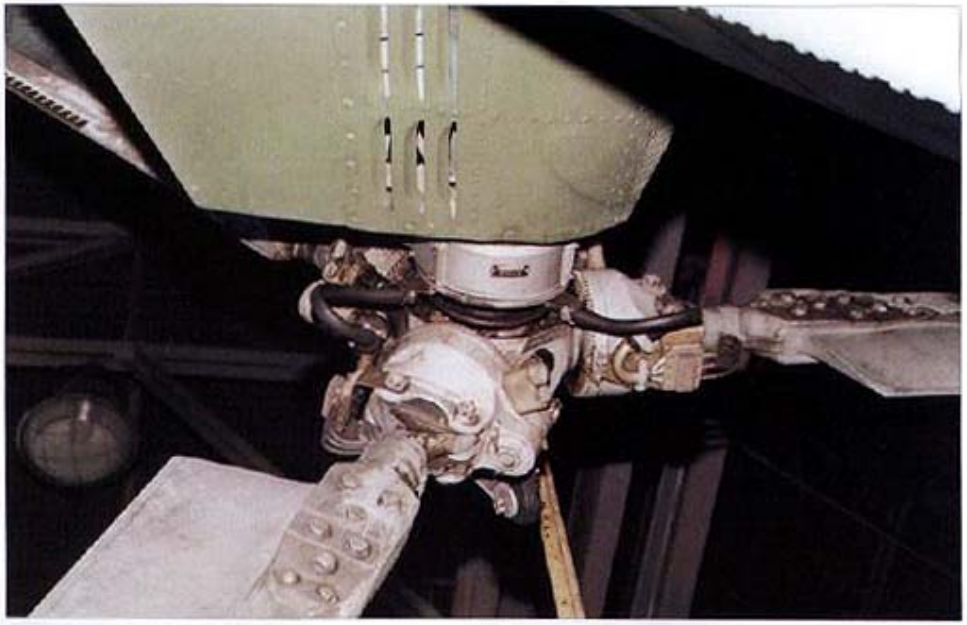


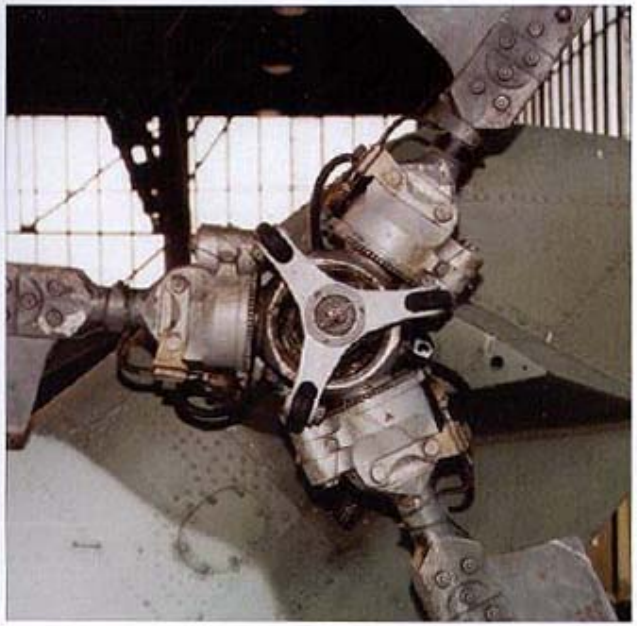


SARP-12DM flight recorder (the 'black box') • Urządzenie rejestrujące parametry lotu

ASO chaff/flare dispensers • Wyrzutnik pocisków zakłócających ASO

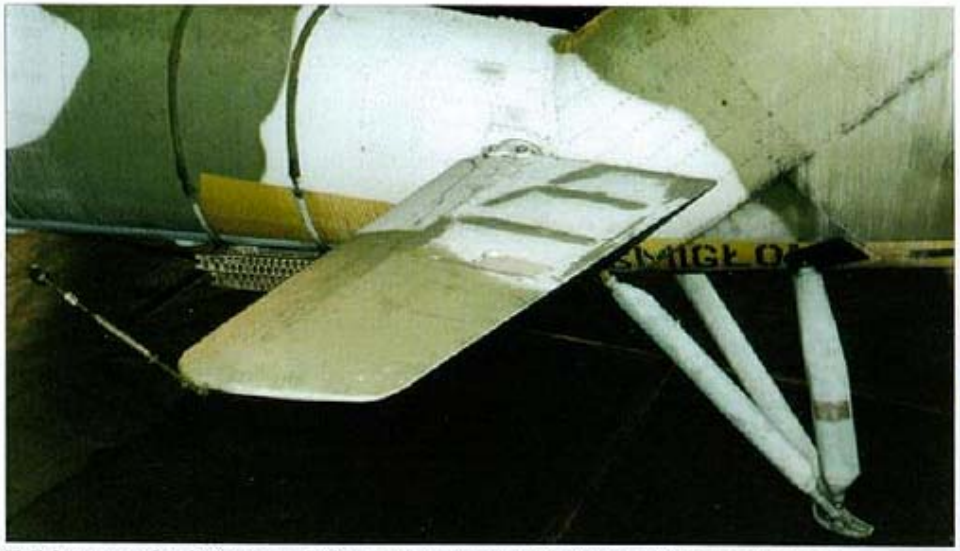
Tailboom with ASO dispensers • Belka ogonowa z wyrzutnikiem ASO



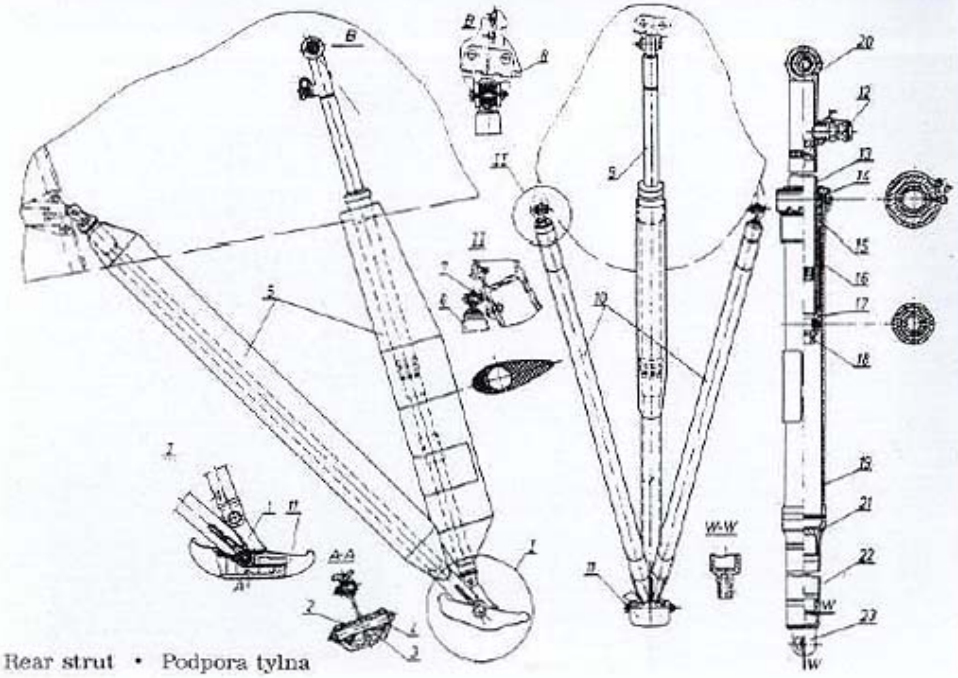


Construction details of tail rotor • Szczegóły konstrukcji wirnika ogonowego

Fot. Krzysztof Dwor



Tail boom and tailplane • Belka ogonowa wraz ze statecznikiem poziomym

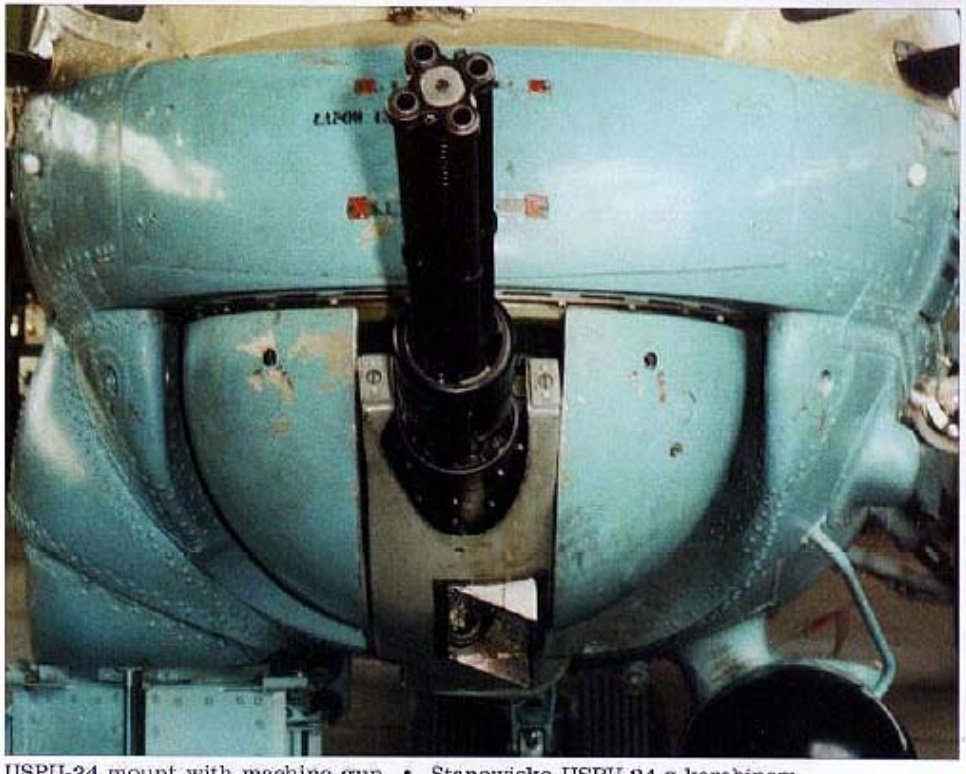


Rear strut • Podpora tylna

Fot. Krzysztof Ziarno

Fot. Andrzej Wrona

Mi-24W armament • Uzbrojenie Mi-24W



USPU-24 mount with machine gun • Stanowisko USPU-24 z karabinem

Fot. Krzysztof Barcz

YakB-12.7 machine gun • Karabin maszynowy JakB-12,7

Fot. Marcin Kaźmierski

Mi-24D armament • Uzbrojenie Mi-24D

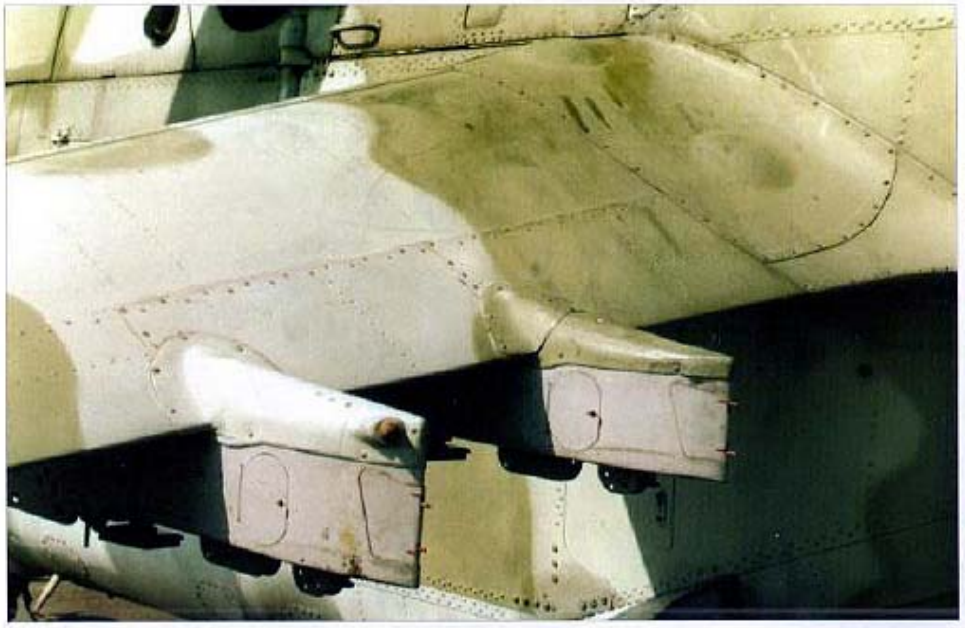
Fot. Krzysztof Barcz

Fot. Krzysztof Barcz

USPU-24 mount without hatches • Stanowisko USPU-24 bez osłon

Fot. Krzysztof Barcz

Open hatch for ammunition belt • Luk ładowania taśmy amunicyjnej w pozycji otwartej



Underslung BD3-57Kr-V racks • Belki nośne typu BD3-57Kr-W

Fot. Krzysztof Dancz

S-13 gun camera • Fotokarabin S-13

Fot. Krzysztof Barcz

Fot. R. Napoń

9M17P anti-tank guided rocket missile – Mi-24 • Kierowany pocisk rakietowy 9M17P-Mi-24D

Fot. Krzysztof Barcz

2P32M twin rails under endplate pylons at wingtips – Mi-24D • Wyrzutnia pocisków kierowanych typu 2P32M – wersja Mi-24D

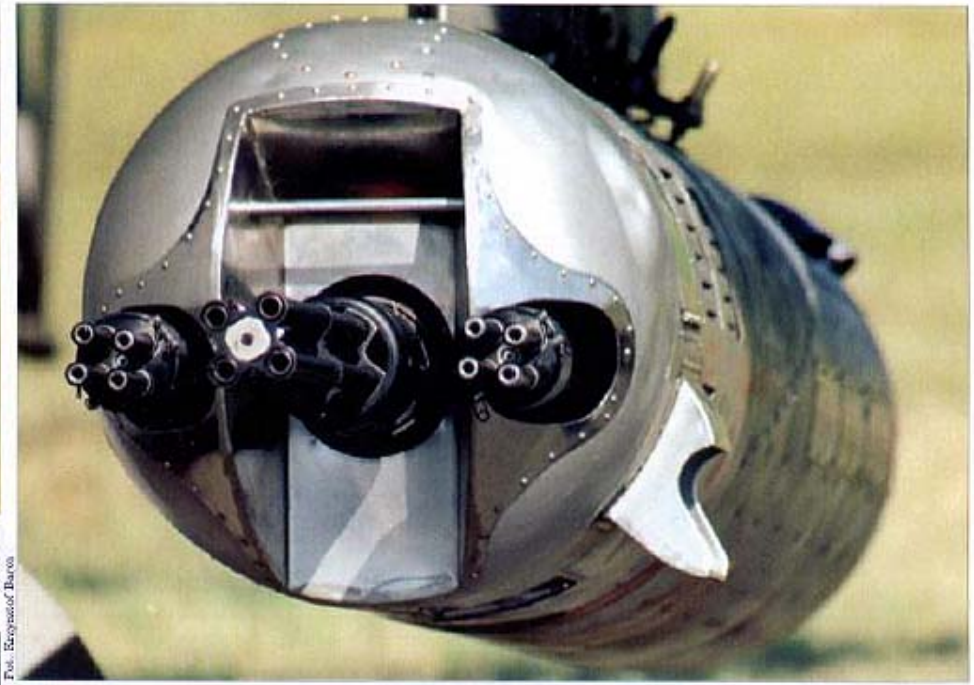
UPK-23-250 gun pods and 9M114 radio-guided tube-launched anti-tank missiles – Mi-24W • Gondole strzeleckie UPK-23-250 i wyrzutnie rurowe pocisków kierowanych 9M114- Mi-24W

UPK-23-250 gun pod • Gondola strzelecka UPK-23-250

Fot. Krzysztof Dance

Fot. Krzysztof Barcz

9M114 missile tube launchers, B8-W20 unguided missile launcher and 9-A-669 grenade launcher (as used on Czech Mi-24s and not ordered by Poland) • Wyrzutnie rurowe pocisków 9M114, wyrzutnia niekierowanych pocisków rakietowych B8-W20 i zasobnik z granatnikiem 9-A-669



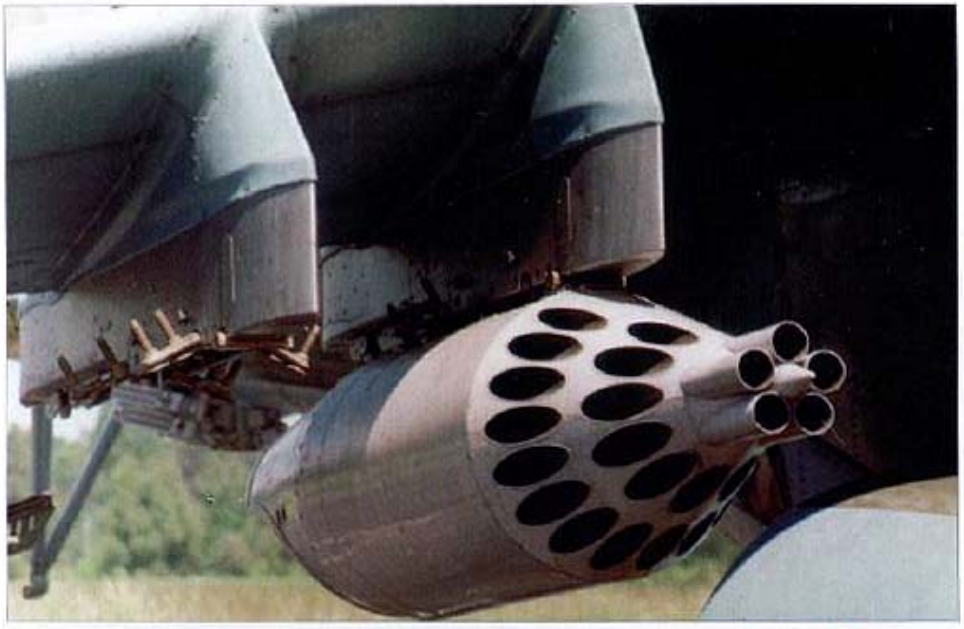
Fot. Krzysztof Barcz

Fot. Adam Ostalski

PTB-450 auxiliary fuel tank underslung a Slovak Mi-24W • Podwieszony na słowackim Mi-24W dodatkowy zbiornik paliwa PTB-450

Fot. Krzysztof Barcz

Container with three 9-A-624 type machine guns (not in use with Polish army) • Zasobnik z trzema karabinami maszynowymi typu 9-A-624



The badge of the 1st Squadron, the 49th Assault Helicopter Group, Pruszcz Gdanski • Godło I eskadry 49 Pułku Śmigłowców Bojowych w Pruszczu Gdańskim

UB-32A-24 unguided rocket missile launchers • Wyrzutnie niekierowanych pocisków rakietowych typu UB-32A-24

The badge of the 2nd Squadron, the 49th Assault Helicopter Group, Pruszcz Gdanski • Godło II eskadry 49 Pułku Śmigłowców Bojowych w Pruszczu Gdańskim

Fot. Krzysztof Maciaś

TOPSHOTS

ISBN 83-89088-64-9